

**BY ORDER OF THE COMMANDER
910TH AIRLIFT WING**

**910TH AIRLIFT WING INSTRUCTION
10-703**



19 JULY 2011

Operations

**PACERWARE, SERENE BYTE, AND
ELECTRONIC WARFARE
REPROGRAMMING PROCEDURES**

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This instruction implements Air Force Instruction 10-703, *Electronic Warfare Integrated Reprogramming*. It establishes procedures for a timely and orderly response to the Electronic Warfare Integrated Reprogramming (EWIR) process and how the 910 AW will respond to an EWIR Message. All references to the wing Electronic Combat Officer (ECO) refer to the ECO or designated alternate (selected 910th Airlift Wing) (AW), Operations Support Squadron (OSS), and Weapons and Tactics Officer. It applies to all wing organizations with electronic warfare communication responsibilities. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, Recommendation for Change Publication as prescribed by AFI 11-215, *USAF Flight Manual Program (FMP)*. Route AF Form 847 to the 773/757 AS/OSK at Youngstown ARS, OH. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 37-123 (will convert to AFMAN 33-363), Management of Records, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at <https://afirms.amc.af.mil/>.

1. General.

1.1. EWIR is a communication intensive process demanding close interaction with numerous wings agencies and is directed by the wing ECO.

1.2. EWIR is developed and implemented through PACER WARE (PW) and SERENE BYTE (SB) Messages from the Air Mobility Command (AMC) and Headquarters Air Force Reserve Command (HQ AFRC).

1.3. During contingency operations or periods of increased operations tempo, the 910th Maintenance Group (MXG/CC) may request a waiver letter from the 910th AW/CC excusing the 910 MXG from participating in SB exercises.

1.4. Successful EWIR requires a constant communication between all participants. During PW or SB reprogramming, all units must maintain contact with the wing ECO.

2. Responsibilities.

2.1. The Wing ECO (or alternate):

2.1.1. Act as the overall coordinator and single Point of Contact (POC) for implementation of all 910 AW EWIR activities and update annually the appointment letter for the EWIR Action Team members.

2.1.2. Act as the OPR for this EWIR Instruction, distribute changes, and review annually for applicability and/or changes.

2.1.3. Direct the EWIR Action Team and convene the team upon notification of SB/PW from the Electronic Warfare Systems Section (EWFS).

2.1.4. Review aircrew and intelligence inputs to include Operational Report (OPREPs) and Mission Reports (MISREPs) for potential EW system deficiencies and prepare an Operational Change Request (OCR) when discrepancies are identified.

2.1.5. Keep aircrews informed on current and reprogramming EW equipment and their capabilities by publishing and briefing the contents of the latest Reprogramming Impact Message (RIM) and System Impact Message (SIM) provided by EWFS downloaded from the Electronic Combat Support Flight (ECSF) Website via Secret Internet Protocol Routing Network (SIPRnet).

2.1.6. Consolidate all agencies' reports and prepare a 910 AW After-action Report for HQ AFRC within three days of reprogramming termination.

2.1.7. The Wing ECO will send out the Unit Loading Message (ULM) received from EWFS to the MAJCOM.

2.2. 910 MXS Electronic Warfare Systems Shop (MXMV) (EWFS):

2.2.1. Ensure all personnel assigned are familiar with all applicable EWIR documents, procedures, and operating instructions. The NCOIC of EWFS will update annually the PW/SB Capability letter and notify the ECO of any changes in the EWIR capability or personnel. NOTE: Most PACER WARE updates are issued as Time Compliance Technical Orders (TCTOs). PACER WARE is a real world reprogramming or minor hardware changes that are required due to changing operational requirements. The TCTO will establish the timelines for the implementation of the PACER WARE update. The Avionics Flight will ensure that the ECO is notified prior to the implementation of any TCTO that would affect the operation of the Aircraft Defensive/Countermeasures systems.

2.2.2. EW personnel will monitor the EWIR Operations PACERWARE Website via Non-Classified Internet Protocol Routing Network (NIPRnet) for PW or SB messages applicable to 910 AW and will determine the action necessary based on the message type.

- 2.2.3. Upon receipt of PW or SB message, it will be documented on the EWIR check sheet. EW personnel will contact the Electronic Combat Officer (ECO) to convene the EWIR Action Team. EW personnel will contact maintenance management to schedule meeting to discuss EWIR Action Team's decision and impact to maintenance and aircraft.
- 2.2.4. PW, SB and local exercise messages, which are informative in nature only (i.e. RIM, SIM or Maintenance Impact Message [MIM]), will be read and stored while awaiting the implementation (IMP) message from the implementation authority (i.e. AMC or AFRC).
- 2.2.5. EW personnel will ensure equipment necessary for reprogramming is available and operational to support reprogramming at home station and deployed locations.
- 2.2.6. EW personnel will access the SIPRnet and login to the ECSF website to download software changes specified in the (IMP). EW personnel will prepare the required equipment for reprogramming aircraft EW systems. Equipment preparation will include but will not be limited to recharging Common Aircraft Portable Reprogramming Equipment (CAPRE) AN/PYM-1 battery, installing hard drive and copying software change file(s) to the classified CAPRE hard drive, and checking in the files within the CAPRE host software IAW T.O. 33D7-3-27-1 sections 2.4.4.3 through 2.4.5.2.2.
- 2.2.7. EW personnel will not load the software change on any aircraft EW systems unless specifically authorized to do so by the implementation authority in the IMP and with the approval of the Wing ECO.
- 2.2.8. After receiving approval, EW personnel will coordinate with the Avionics Flight Chief to schedule and coordinate aircraft for Electronic Warfare system (EWFS) reprogramming as directed in message instructions. The Avionics Branch Chief will coordinate with MXG/CC, MXS Superintendent, Plans and Scheduling, Quality Assurance (QA), Maintenance Operation Center (MOC), and Aircraft Maintenance Squadron (AMXS). A detailed plan and timeline will be created and provided to EW personnel.
- 2.2.9. EW personnel will provide the EWIR unit data sheet indicating any problems encountered to the Wing ECO within 72 hours of date specified in IMP. The unit data sheet will include the Date Time Group (DTG), message type and EW system affected for each message received. Procedures and expertise in performing these functions can be addressed with the Air Warfare Center (AWC.)
- 2.2.10. Conduct local exercises as necessary to maintain continuity of the EWIR system.
- 2.2.11. Maintain a current listing of operational and training software and Mission Data (MD) for EW systems.
- 2.3. Provide 910 AW ECO with information on EW deficiencies that impact EW systems.
- 2.3.1. Review aircrew debriefings and mission reports for unusual EW equipment operation that could indicate potential EW deficiencies.
- 2.3.2. Assist the 910 AW ECO in preparing OCRs.
- 2.3.3. Report unusual findings in MISREPs.

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Commander

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 10-703, Electronic Warfare Integrated Reprogramming, 30 November 2007

T.O. 33D7-3-27-1, Common Aircraft Portable Reprogramming Equipment (CAPRE) Operation and Reference Manual, 10 March 2005

Prescribed Forms

910AW Form 1, 910th Airlift Wing Electronic Integrated Programming Check Sheet

Abbreviations and Acronyms

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve Command

AMC—Air Mobility Command

AWC—Air Warfare Center

BCC—Base Communication Center

CAPRE—Common Aircraft Portable Reprogramming Equipment

CMDS—Counter Measures Dispenser System

CP—Command Post

DAT—Data Message

DCS—Digital Computer System

DTG—Date/Time Group

ECM—Electronic Counter Measures

ECO—Electronic Combat Officer

ECSF—Electronic Combat Support Flight

EOB—Electronic Order of Battle

ERC—Emergency Reprogramming Center

EW—Electronic Warfare

EWIR—Electronic Warfare Integrated Reprogramming

EWFS—Electronic Warfare Systems

IAW—In Accordance With

IMP—Implementation Message

MD—Mission Data

MIM—Maintenance Instruction Message

RDS—Records Disposition Schedule
MISPREP—Mission Reports
MOC—Maintenance Operation Center
MSEWDDS—Multi-Service Electronic Warfare Data Distribution System
MX—Maintenance
MXG—Maintenance Group
MXMVE—Electronic Warfare Systems Shop
MWS—Missile Warning System
NCOIC—Non-Commissioned Officer In Charge
NIPRnet—Non-Classified Internet Protocol Routing Network
OCR—Operational Change Request
OG—Operations Group
OI—Operation Instruction
OPREP—Operational Report
OPS CK C/W—Operational Check Complied With
OSS—Operations Support Squadron
POC—Point of Contact
PW—Pacer Ware
RDS—Records Disposition Schedule
RIM—Reprogramming Impact Message
RWR—Radar Warning Receiver
SB—Serene Byte
SIM—System Impact Message
SIPRnet—Secret Internet Protocol Routing Network
TCTO—Time Compliance Technical Order (Referred to as a TCT in EWIR messages)
ULM—Unit Loading Message
USAF—United States Air Force

Terms

After Action Report (AAR)—Similar to ULM. Used by units to report any problems/solutions they may have encountered during the SB/PW event; must be sent NLT 24 hours after exercise termination.

Alert—Message from AWC, HQ Air Combat Command (ACC), or other HQ for 374 AW to prepare for upcoming SB/PW events.

Air Warfare Center (AWC)—Based at Eglin AFB, provides technical expertise and procedures to update EC equipment. Emergency Reprogramming Center is on call 24 hrs and issues messages and data for SB/PW.

Electronic Combat (EC)—Warfare through the use and exploitation of the electromagnetic spectrum.

Electronic Warfare (EW)—Any military action involving the use of the electromagnetic and directed energy to control the electromagnetic spectrum or to attack the enemy.

Electronic Warfare Specialist (EWS)—A maintenance troop who is responsible for reprogramming aircraft (with approval from wing ECO or equivalent representative).

Implementation Message (IMP)—Issued by HQ ACC, this message authorizes coordinator to instruct EWS to load new software in the aircraft/equipment. Timing criteria for a SB begins with receipt of the IMP.

Maintenance Instruction Message (MIM)—Message from AWC. Similar to RIM - provides “how to” reprogram equipment. Should include a filename if data is being sent.

Multi Service Data Distribution System (MSDDS)—Classified e-mail operated by AWC at Eglin AFB. Users connect to MSDDS by a SIPR login at <http://ecsf.robins.af.smil.mil>. They can obtain an account by contacting the wing TASO, usually the Wing ECO.

Maintenance Operation Center (MOC)—Located in 374 AW/CP, the MOC acts as a point of contact for communication and maintenance liaison.

Program Loader Verifier (PLV)—Used by a EWS to upload software changes to the ALE-47.

Reprogramming Impact Message (RIM)—Message from AWC that details how the ERC plans to compensate for the change in the threat (i.e., reprogram the POD or RWR). Information contained in a PW RIM must be briefed to all crewmembers. RIM should include a filename or procedures for receiving and loading “the fix” into EC equipment.

Time Compliance Technical Order (TCTO)—Basic Air Force change (usually hardware) to any aircraft/support equipment; usually issued from Air Logistics Center (ALC).

System Impact Message (SIM)—Message from AWC that warns crew members that a threat has changed in some way. The SIM includes sensitive information that details what effect a change might make on our capability to wage war on the enemy. Information contained in a PW SIM must be briefed to all crew members immediately.

Unit Loading Message (ULM)—Written by the coordinator, this message notifies HQ and AWC that the SB/PW has been accomplished. Must be sent NLT 72 hours after exercise termination. References for this are the World Wide SB Exercise Plan and AFI 10-703.

Attachment 2**PREPARING 910AW FORM 1****A2.1. Preparing the 910 AW Form 1.**

A2.1.1. An electronic version of this form is available on the e-Publishing website.

A2.1.2. Date of Notification of SB/PW: The date the message was first received will be entered in this block.

A2.1.3. Time of Notification of SB/PW: The time the message was first received will be entered in this block.

A2.1.4. Received Notification of SB/PW by: Enter the method of notification (i.e. NIPRnet email notification, phone call, or found message on ECSF Website) by using the drop box named "Select Reason."

A2.1.5. Affected System: Click the radio button for the appropriate system that is impacted by the message.

A2.1.6. MSEWDDS Access Date/Time: The date and time that the MSEWDDS site was accessed to download message from SIPRNET.

A2.1.7. Status of Download: Click the radio button by the appropriate box.

A2.1.8. Date/Time Data Received: Enter the date and time that the download of the message from the SIPRNET is complete.

A2.1.9. CAPRE Load Start Date/Time: Enter the start date and time that the CAPRE is loaded with Operational Flight Program (OFP) or Mission Data Files (MDF).

A2.1.10. CAPRE Load Stop Time: Once the OFP or MDF is loaded into the CAPRE, immediately check the file into the CAPRE Host Software. Once the file is successfully checked in IAW 33D7-3-27-1 sections 2.4.4.3 through 2.4.5.2.2 enter this time in this block.

A2.1.11. Date/Time (IMP) Implementation Message Received: The majority of the time the awareness of a SB/PW message will precede the Implementation Message. If this is the case, enter the date and time that the Implementation Message was received.

A2.1.12. Date/Time EWIR Action Team Convened: Enter the date and time that the EWIR Action Team meets to discuss EWIR Action items.

A2.1.13. Date/Time MX Meeting: Enter the date and time that the Maintenance meeting takes place to decide impact on maintenance and aircraft (i.e. scheduling). NOTE: This meeting should always take place after the EWIR Action Team meeting.

A2.1.14. Attendees: Enter the name of the individuals that attended the meeting to include the office or area of responsibility they represent.

A2.1.15. A/C Tail Number: Enter the eight (8) digit aircraft tail number in these blocks separately.

A2.1.16. Date Start/Stop Time: Enter the date and start/stop time that the download into the affected systems is actually accomplished.

A2.1.17. OPS CHK C/W: Enter whether the operational checks were good or bad.

A2.1.18. Comments: Enter what is bad about the operational checks if applicable and any anomalies found during the software download or operational checks.

A2.1.19. The 910 AW/MXS/MXMVE (EWFS) will keep the Electronic Warfare Integrated Reprogramming Check Sheet until the completion of a newer software version that is the same affected system and software type (i.e. MDF or OFP). Disposal of previous Check Sheets will be accomplished by shredding them in any approved classified shredder.